

## Additional solutions to 2.1

7. Slope

$$m = \frac{17-1}{10-5} = 3.2 \quad \text{Slope is 3.2}$$

Vertical Intercept

$y = 3.2x + b$  and any point to find  $b$ . In this example (5, 1) is used

$$\begin{aligned} 1 &= 3.2(5) + b \\ b &= -15 \end{aligned} \quad \text{Vertical Intercept (0, -15)}$$

Horizontal Intercept

$$\begin{aligned} y &= 3.2x - 15 \\ 0 &= 3.2x - 15 \\ 15 &= 3.2x \\ x &= 4.6875 \end{aligned} \quad \text{Horizontal Intercept (4.6875, 0)}$$

8. Slope

$$m = \frac{4-4}{21+15} = \frac{0}{36} = 0 \quad \text{Slope is 0}$$

Vertical Intercept

$y = 0x + b$  and any point to find  $b$ . In this example (-15, 4) is used

$$\begin{aligned} 4 &= 0(-15) + b \\ b &= 4 \end{aligned} \quad \text{Vertical Intercept (0, 4)}$$

Horizontal Intercept

$y = 4$  is a horizontal line and will be parallel to the  $x$ -axis.

Therefore, it will not have a horizontal intercept.

$$4x + 2y = -10$$

9.  $2y = -4x - 10$  Solve for y  
 $y = -2x - 5$

Slope is  $-2$

Vertical Intercept  $(0, -5)$

Horizontal Intercept

$$y = -2x - 5$$

$$0 = -2x - 5$$

$$5 = -2x$$

$$-2.5 = x$$

Horizontal Intercept  $(-2.5, 0)$

$$3x - 8y = 14$$

10.  $-8y = -3x + 14$  Solve for y  
 $y = \frac{3}{8}x - \frac{7}{4}$

Slope is  $3/8$

Vertical Intercept  $(0, -7/4)$

Horizontal Intercept

$$y = \frac{3}{8}x - \frac{7}{4}$$

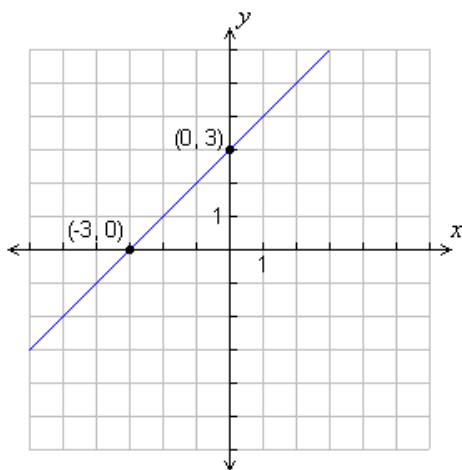
$$0 = \frac{3}{8}x - \frac{7}{4}$$

$$\frac{7}{4} = \frac{3}{8}x$$

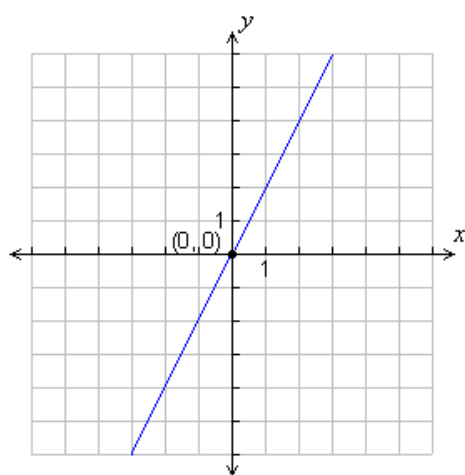
$$\frac{14}{3} = x$$

Horizontal Intercept  $(\frac{14}{3}, 0)$

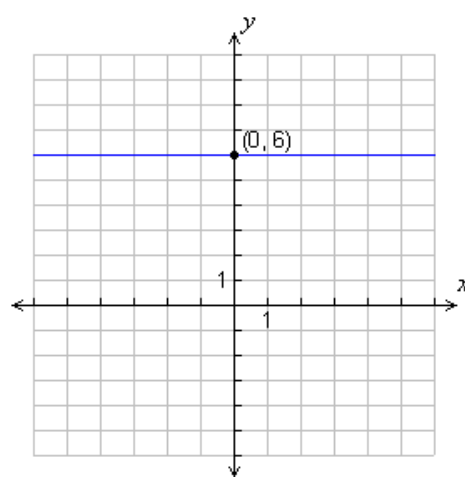
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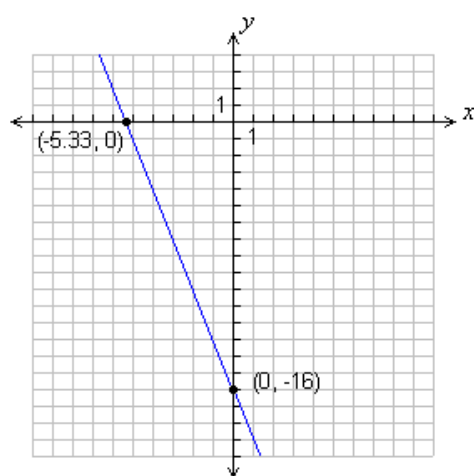
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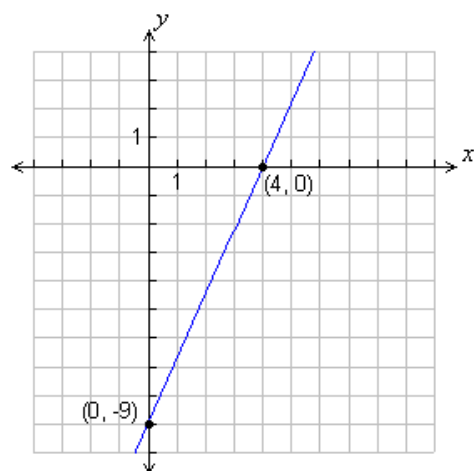
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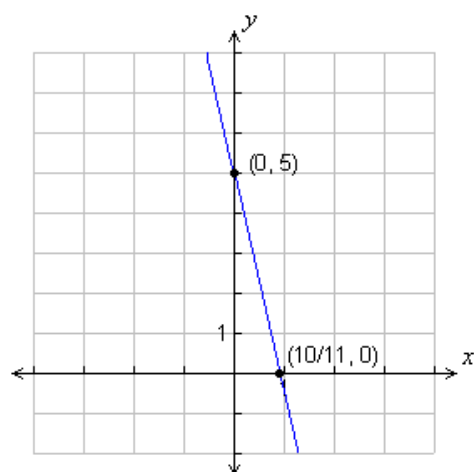
22.



23.



24.



40.  $m = \frac{7-3}{4-0} = \frac{4}{4} = 1$

(0, 3) gives the vertical intercept so  $b = 3$

$$y = x + 3$$